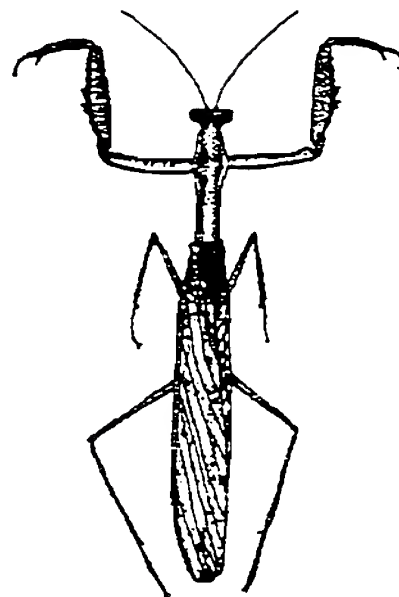


Mantis Study Group Newsletter 18

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Editorial

Three contributors to the newsletter this time, almost a record! Thanks to Felicity Jackson, Paul Taylor and Andy Lasebny for their contributions, also to Kieren Pitts for the abstracts. What about the rest of you writing something?

Those who went to the AES exhibition at Kempton Park last month had a good selection of mantids to choose from; various dealers had a good selection available. I was very interested to see the spectacular adult *Blepharopsis mendica* (Fabricius, 1765) for sale at £20 per pair, and to talk to the dealer selling them. I tried rearing this species a few years ago. Starting with five newly hatched nymphs - from an ootheca imported from Israel - after 15 months I was left with two less than half-grown female nymphs which then died. I had been rearing them in my usual "unheated" conditions, i.e. in my house with no additional heating. The dealer had reared his to adult in less than eight weeks - at high temperature. I am sure my low temperature was the reason I was unsuccessful, but why does that matter with this species when central African species are okay when unheated?

Exhibitions

We hope to be exhibiting at all of the following events.

Sunday 2nd December 2000.

Midlands Entomological Fair. At Kettering Leisure Village. Open 1030-1630. The venue is just off junction 8 of the A14 and is usually well signposted.

April 2001 (I am not sure of the date at present).

Midlands Entomological Fair. At Kettering Leisure Village.

Subscriptions — Paul Taylor.

Members are reminded that their subscriptions will be due for renewal as from 1st January 2001. I am pleased to announce that once again the membership subscription will be the same as last year. Also, UK members will now be able to pay their membership either by Standing Order, for which a form is enclosed with this Newsletter, or if you have on-line banking facilities, directly into our bank account. In both cases, the reference number which is on the Standing Order form and also on the on-line banking form is your membership number (this is found on the top, right hand side of the address label on your Newsletter envelope). If you do wish to pay by either of these means, and do not have your membership number, please contact me, and I shall forward it to you. Without your membership number we cannot process your renewal. The

bank sort code and account number are found on the Standing Order form.

We regret these facilities are not available to European and other Overseas members. You will need to pay either by cash in your own currency, or by cheque for the equivalent amount in sterling, drawn against a UK bank.

Not mantis country — Felicity Jackson.

I wonder what constitutes good mantis country? In past years we have found mantids in plenty around the southwest coast of France, and on the Balearics. They sat on house walls, flew up from the maquis vegetation as we approached, and blundered into our car headlights. Several species - in abundance. However, in western Tuscany, and around northern Italy, this year - not a sign. This despite the presence of lots of grasshoppers.... and baking heat! Less surprisingly, no sign of mantids in the lower alpine regions of France; again plenty of potential prey.

We were told by our Tuscan hosts that mantids had been seen in the area. On the last morning of our stay I thought we had one at last, attracted to the house lights the night before, together with dozens of assorted creatures. Tiny, not much more than a centimetre long, it looked just right. Except possibly the wings, they looked perhaps too lacewing-like. No - it was a mantis fly, order Neuroptera. Related more closely to lacewings and ant-lions (we had one of those too, flapping round the bedroom) than to a mantis. Do mantids, I wonder, favour Mediterranean coastal regions, with a slightly more equitable climate? Is habitat crucial? Or did we just strike lucky sometimes? Any suggestions anyone?

Mantis Books — Paul Taylor

Since the formation of the Mantis Study Group in May 1996, a number of mantis related books have been published. One of the queries I regularly get from members is "what books are available about mantids?". Whilst I realise that there may be many more books available which I have not heard about (perhaps members may like to send in a review, or simply send a small article about a book they know of), below are some of the books that I have been fortunate to obtain.

Grasshoppers and Mantids of the World by Ken Preston-Mafham.

Softback: ISBN 0-7137-2381-5, price £9.99; hardback ISBN 0-7137-2148-0. Published 1990 by Blandford, London, U.K.

This book covers some of the world's Orthopteroids, including the grasshoppers, katydids, cockroaches, mantids and stick insects. The contents include:

- Classification and physiology
- Courtship and Mating
- Egg-laying and development
- Food and Feeding
- Defence
- Where they live
- Enemies
- Interaction with the Human World

The book is well laid out and has many colour pictures of all types of Orthopteroids, including the mantids and is an ideal book for the first time mantis rearer. The book is available as both hardback and softback and should be obtainable from good bookshops or via the internet (e.g. from Amazon.co.uk).

Rating: ★★★★★

An Introduction to Rearing Praying Mantids by Phil E. Bragg.

Price £2.50. Published 1997 by P.E. Bragg, Ilkeston, U.K. ISBN 0-9531195-0-5.

This book is the ideal book for both the first time rearer and the more experienced mantis keeper. The contents include:

- Introduction to the praying mantis and types of mantids
- Structure of the mantis
- Mantids in captivity, handling and environmental conditions
- Cages
- Feeding
- Breeding mantids, including sexing mantids, mating, egg laying and caring for young nymphs
- Identification
- Preserving
- Distributing mantids including posting them out and suitable containers
- Obtaining mantids including choosing and collecting mantids from the wild.
- Sources of further information.

The book has excellent line drawings of both the commoner mantis species, and some of the more unusual species, collected by the author. The author has had considerable experience in rearing mantids, and has therefore used this experience to convey to the reader both the pitfalls and successes in mantis rearing.

This book is available direct from the author, from some insect dealers, and from bookshops.

Rating: ★★★★★

Rearing and Studying the Praying Mantids by George L. Heath and Gerard Cowgill.

Published by the Amateur Entomologist Society, Feltham, Middlesex, UK. ISBN 0-9000054-50-6.

Price about £3.00. Revised edition 1989.

Whilst this is still a very useful book for the mantis rearer, the book does not go into as much detail as the one mentioned above. What is particularly useful, is the list of mantis species generally available, and the counties of origin. Contents include:

- Rearing and Studying the mantis, including the oothecae, nymphs, moulting, adults and breeding.
- General observations
- Rearing containers
- Mantis prey
- Notes on species available.

Unfortunately this book is somewhat limited in its contents, and I believe now superseded by the above book.

Rating ★★★

The Pictorial Mantis Encyclopedia by Graham and Janice Smith.

On CD. Price about £15.00 including postage and packing. Available direct from Graham and Janice Smith, 28 Greaves Road, High Wycombe, Bucks., HP13 7JU, U.K. or at the major insect fairs.

For all those members who have a computer with a CD drive, then this is an ideal reference tool to have. The CD is crammed with lots of information and is very easy to navigate around. Contents includes:

- A - Z of species
- Cages
- Breeding mantids
- The biology of mantids
- More information.

With each species, there is a colour photo, an easy size recognition chart, country of origin and rearing conditions. There are also pictures of the different types of oothecae laid by the different species - something which I do find to be lacking in many books, although the AES *Rearing and Studying the Praying Mantids* does show a few oothecae.

Graham and Janice have been breeding and studying mantids for some time, and their wealth of information has been put to good use in this excellent CD. The links are quick and easy to get around. The information given on rearing, cages and biology of the mantis is set out very well and in all, this is an ideal reference CD for both the amateur and the specialist mantis rearer.

Rating ★★★★★

The Praying Mantis by Frederick R. Prete, Harrington Wells, Patrick H. Wells and Lawrence E. Hurd. ISBN 0-8018-6174-8. Published in 2000 by John Hopkins University Press, U.S.A. Price about £50.00. Hardback, 362 pages.

This is the book for the serious mantis keeper and student, and not really aimed at the amateur keeper, although having said that, I do think it would be still useful on the bookshelf as a future reference book. The contents include:

- History, Morphology and Taxonomy including the predatory behaviour of mantids
- Ecology and Mating behaviour
- Hearing and Vision, including prey recognition
- Motor Behaviours including flight and wing kinematics and prey capture.
- Defensive Behaviour

Techniques, including rearing techniques and mantids in ecological research.

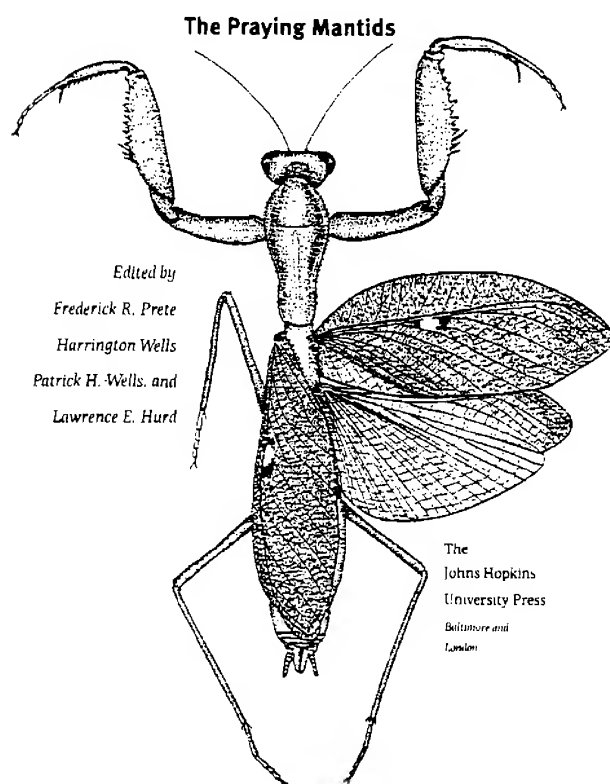
The book contains some exceptional colour photographs of mantis species, as well as some very interesting data and illustrations on such things as flight, defensive behaviour and prey strikes, and recognition.

If you are going to seriously study the praying mantis, then this book (in my opinion) is a must, and although it may seem a bit expensive, the amount of work that has gone into this book justifies the price charged and is well worth every penny. The interesting forward by John Alcock points out that mantids can be and are very interesting and rewarding

creatures both to study and keep, something with which I believe all mantis rearers will agree.

The book should be available from specialist natural history bookshops.

Rating ★★★★★



MANTIS 2000! - Update on *Creobroter gemmatus* — Andy Lasebny.

My third generation *Creobroter gemmatus* hatched on December 19th 1999. This time, I tried a slightly different approach to rearing these. I set up a wooden cage I built that was originally meant to contain a single adult mantis of a large species. This has fruitfly-proof screen mesh on the two sides, a plywood background with thin flat stones glued to it, a glass door made of an 28.5cm by 35cm picture frame, and a glass lid with a wood knob glued to it for easy removal. I added a piece of florist's foam (oasis) to the bottom, cut to fit exactly. In this I stuck some carefully selected silk flowers, making sure that there was a continuous dense meadow-like appearance to it, with many of the flowers touching the sides of the cage. On top, toward the back of the 30cm wide by 30cm wide cage, I placed a fluorescent light fixture on a timer. The new hatchlings, about 55 of them, were released inside. They made their way onto the flowers and began to settle down and find their own space, with plenty of small florets to hide in between. Some of the flower stalks are artificial lilacs, and these provide a lot of surface area to hide in. In this set-up, they began to behave more naturally, and interacted with one another like they would presumably do in the wild. There was constant communication going on. They signalled to each other by waving their forelegs and twisting their upturned abdomens to face other individuals that were nearby. Feeding them was easy in this set-up. I either opened the door to dump in fruitflies, or opened the lid and sprinkled them over the tops of the silk flowers. Once they got past the fruitfly eating stage, I would take a vial full of about 20 or more tiny crickets and sprinkle them over the tops of the flowers as well. As they made their way down between the flowers to go towards the ground, many would be grabbed by the mantids. The mesh sides and rough stone background greatly increased the chance that crickets would climb back up the sides and get near the mantids. Because some of the less aggressive individuals did not get to eat as often, I sometimes hand fed any one that looked thin. Or, I would remove that one and put it into a separate container. The light being towards the back of the cage prevented most of them from staying on or near the door, and fewer of them crawled on the glass lid. Twice a day or so, I would spray the inside of the cage with distilled water. They would drink on most days, but I did not spray too much water in there, only enough for drinking. I kept them mostly on the dry side. There were no moulting problems at all, and only one unexplained death. No more than 20% were lost to cannibalism. Whenever I saw a very aggressive individual that kept attacking others, I separated that one into its own container. After giving away 20 or so, the rest were kept in that cage until they were about one third grown. Then the cannibalism started to increase, and I put half of them into another, identical cage. This greatly reduced the incidence of cannibalism. This cage had an incandescent lamp aimed at it, while the other had fluorescent. What was interesting, was that the extra heat generated by the incandescent lamp caused the ones in that cage to grow considerably faster than the others. They began to moult more frequently, and soon were one or two moults ahead of the others. The first adult in that cage came less than two and a half months after hatching. As soon as an individual became an adult, I separated it into its own container. (The adult males were able to stay together for a while, but as soon as a female moulted into an adult, I removed it immediately.)

One interesting behaviour to make note of was an adult female that I placed in a small decorative glass display container. I removed one of the glass sides and replaced it with a piece of screen mesh for ventilation, and put in an artificial flower. I placed the container in the living room on a shelf. Whenever the television set would be turned on, this little mantis would stare at the screen and assume a strange posture - hanging down with both forelegs stretched out and spread apart. The mantis would stay in this position, as if hypnotized, the entire time the TV was on. When the TV was turned off, the mantis assumed a normal posture and would move about the container. Once I gave the mantis a cricket before turning on the TV, and she began to eat it. After two minutes or so I turned on the TV and the mantis immediately turned her head toward it, stretched out her forelegs still holding the cricket, and just stared at the screen. The cricket continued to struggle as the mantis stayed in that position for more than a half an hour before continuing to eat the cricket. Who knows what sort of movement the mantis sees on the TV - it is probably very different than we perceive it.

Unlike the previous generations, the third generation had no trouble mating. I had three of the females mate, and the males only took a few minutes to begin mating, unlike the endless frustration of trying to get them to mate previously (see *MSG Newsletter*, 13: 6-14). I have no idea why they were so cooperative this time. The first set of 4th generation nymphs hatched on June 6th, but unfortunately they kept dropping dead for no apparent reason. They were eating and drinking fine, but by the 3rd week only two were left. But another egg case from a different female hatched on June 22nd, and these were just fine. They are almost all adults as of mid August, and one from the previous hatch that survived became an adult female on August 3rd. This is the quickest they had ever become adults - seven to eight weeks, instead of ten or more. There is still an adult female alive from the third generation as of August 21st, (the one that was "watching" TV), and two males from that December 19th hatch just died in the past two weeks. I wonder for how many generations I will be able to continue these. The adults of the fourth generation are noticeably smaller than those of the third generation.

Mantis abstracts

The following are abstracts from papers published recently, or in some cases details of the paper but without an abstract. The papers are in English unless otherwise indicated. The editor would be grateful for copies of any recently published papers so that abstracts may be included in this section of the newsletters.

Lombardo, F. (2000) *Stenophylla lobivertex*, a new species of Stenophyllinae from Amazonia (Insecta, Mantodea). *Studies on Neotropical Fauna and Environment*, **35**(1): 34-37.

Stenophylla lobivertex, a new species of Stenophyllinae from Ecuador and Peru, where this genus has never been found before, is described. This new species differs from *Stenophylla cornigera* Westwood, the only species known for this genus, by the remarkable size of the median process of the vertex and by the shape of the male genitalia. The systematic position and some biogeographical remarks about the genus are made.

Rane, N., Ranade, S., Ghate, H.V. & Mukherjee, T.K. (2000) On the description of female of *Acromantis montana* Giglio-Tos from Kumta, Karnataka, Western Ghats (Mantodea: Hymenopodidae). *Entomon*, **25**(1): 61-62.

The female of the mantis *Acromantis montana* is redescribed from a specimen collected from Kumta, Karnataka. It also forms first report of this species from Western India.

West, B.K. (2000) The proboscis: The "Achilles heel" of hawk-moths in southern Africa. *Entomologist's Record and Journal of Variation*, **112**(2): 88-89.

Abstract not available at present.